Amendments to the Specification:

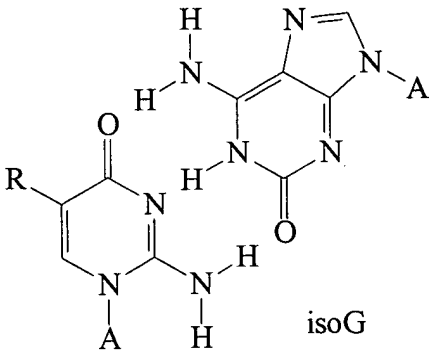
Please replace the prior Sequence Listing with the attached Sequence Listing.

Please replace paragraph **[0042]** with the following amended paragraph:

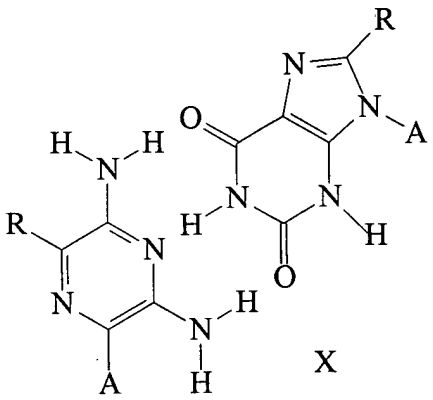
[0042] The target oligonucleotide or its complement typically includes a reporter or a coupling agent for attachment of a reporter. Observation of the solid support to determine the presence or absence of the reporter associated with a particular capture oligonucleotide indicates whether a particular analyte-specific sequence is present in the sample. Suitable reporters include, without limitation, biotin, fluorescents, chemilluminescents, digoxigenin, spin labels, radio labels, DNA cleavage ~~moities~~ moieties, chromaphors or fluoraphors. Examples of suitable coupling moieties include, but are not limited to, amines, thiols, hydrosines, alcohols or alkyl groups.

Please replace paragraph **[0051]** with the following amended paragraph:

[0051] Non-standard bases, which form hydrogen-bonding base pairs, can also be constructed as described, for example, in U.S. Patents Nos. 5,432,272, 5,965,364, 6,001,983, and ~~6,037.120~~ 6,037,120 and U.S. Patent Application Serial No. 08/775,401, all of which are incorporated herein by reference. By "non-standard base" it is meant a base [[that]] other than A, G, C, T, or U that is susceptible of incorporation into an oligonucleotide and which is capable of base-pairing by hydrogen bonding, or by hydrophobic, entropic, or van der Waals interactions to form base pairs with a complementary base. Figure 1 illustrates several examples of suitable bases and their corresponding base pairs. Specific examples of these bases include the following bases in base pair combinations (iso-C/iso-G, K/X, H/J, and M/N):



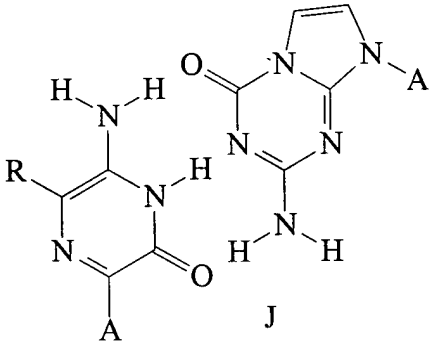
isoG



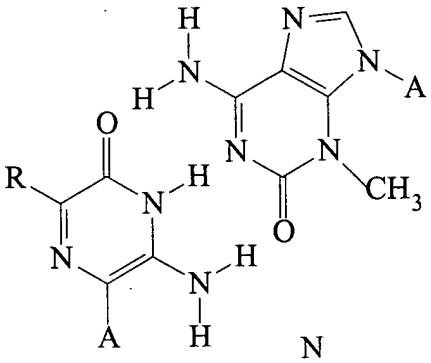
X

isoC

K



J



N

H

M

where A is the point of attachment to the sugar or other portion of the polymeric backbone and R is H or a substituted or unsubstituted alkyl group. It will be recognized that other non-standard bases utilizing hydrogen bonding can be prepared, as well as modifications of the above-identified non-standard bases by incorporation of functional groups at the non-hydrogen bonding atoms of the bases. To designate these non-standard bases in Figures 3 to 9, the following symbols will be used: X indicates iso-C and Y indicates iso-G.

Please replace paragraph **[0071]** with the following amended paragraph:

[0071] The target oligonucleotide (or an oligonucleotide complementary to at least a portion of the target oligonucleotide) includes a reporter or a coupling agent for attachment of a reporter. The reporter or coupling agent can be attached to the polymeric backbone or any of the bases of the target or complementary ~~oligonucleotide~~ oligonucleotide. Techniques are known for attaching a reporter group to nucleotide bases (both natural and non-standard bases). Examples of reporter groups include biotin, digoxigenin, spin-label groups, radio labels, DNA-cleaving moieties, chromaphores, and fluorophores such as fluoroscein. Examples of coupling agents include biotin or substituents containing reactive functional groups. The reporter group is then ~~provided~~ attached to streptavidin or contains a reactive functional group that interacts with the coupling agent to bind the reporter group to the target or ~~complimentary~~ complementary oligonucleotide.

Please replace paragraph **[00200]** with the following amended paragraph:

[00200] The genotype of a polymorphic loci was determined following the amplification, query, and capture of target nucleic acid sequences from genomic DNA samples. The first step, a PCR reaction, included a set of PCR primers: a first primer A and a second primer B. The primer B contained a 5' sequence non-complementary to the target with an iso-C at the junction of the analyte specific and non-complementary portion. The primer pair was designed to hybridize to and amplify a region of mouse genomic DNA that encompasses a known polymorphic site. The second step, [[a]] an allele specific primer extension (ASPE) reaction, included a set of tagged allele-specific primers. Each tagged allele-specific primer was composed of a 5' tagging sequence containing non-standard nucleotides (iso-G), followed by a c3 spacer, followed by a 3' sequence designed to hybridize to one of the DNA strands amplified in the previous PCR step. The allele specificity was determined by the 3' nucleotide of each tagged allele-specific primer. The set of tagged allele-specific primers was designed to query a known polymorphic site

embedded in the amplified sequence. A DNA ligase and a reporter oligonucleotide containing a 5' phosphate, and a 3' biotin modifications [[was]] were included in the ASPE reaction. This reporter oligonucleotide was ~~complimentary~~ complementary to the 5' region of primer B used to generate the amplicon that was queried. The strand of the amplified product containing this non-standard base containing region served as the template for the ASPE reaction. During allele specific primer extension, the DNA polymerase terminates at the base prior to the iso-C in the template strand, thus leaving a single stranded region to which the reporter oligonucleotide to hybridize. The complex between the extended ASPE primer, the template, and the reporter oligonucleotide results in a nick structure suitable for ligation by a DNA ligase.

Please replace the **Abstract** with the following amended paragraph:

Solid support assays using non-standard bases are described. A capture oligonucleotide comprising a molecular recognition sequence is attached to a solid support and hybridized with a target ~~oligonucleotide the solid support.~~ oligonucleotide. In some instances, the molecular recognition sequence includes one or more non-standard bases and hybridizes to a complementary tagging sequence of the target oligonucleotide. In other instances, incorporation of a non-standard base (e.g., via PCR or ligation) is used in the assay.